



SOT-23 Plastic-Encapsulate Transistor

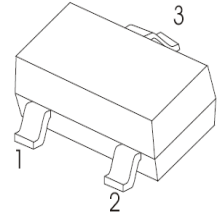
MMBT4403 TRANSISTOR (PNP)

SOT-23

FEATURES

- Switching transistor

1. BASE
2. EMITTER
3. COLLECTOR



MARKING: 2T

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

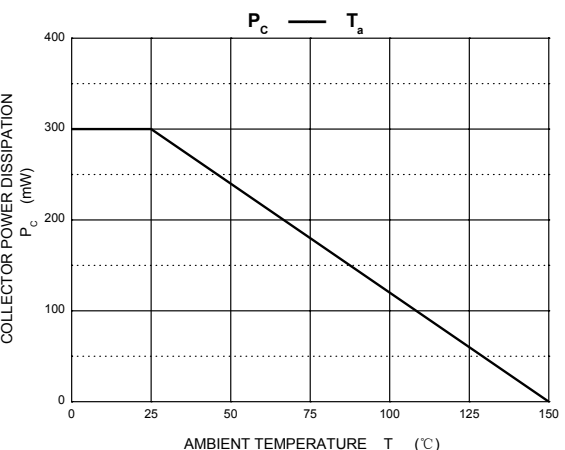
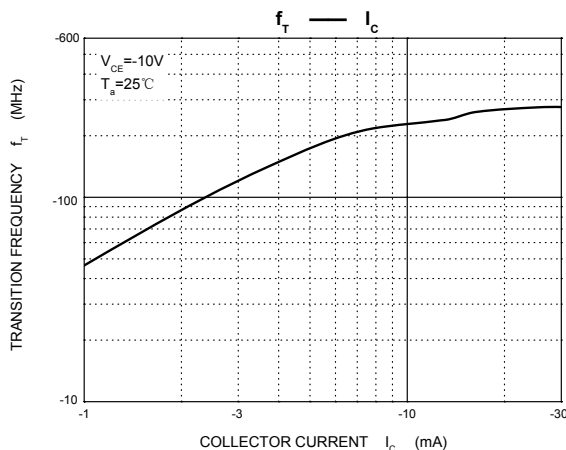
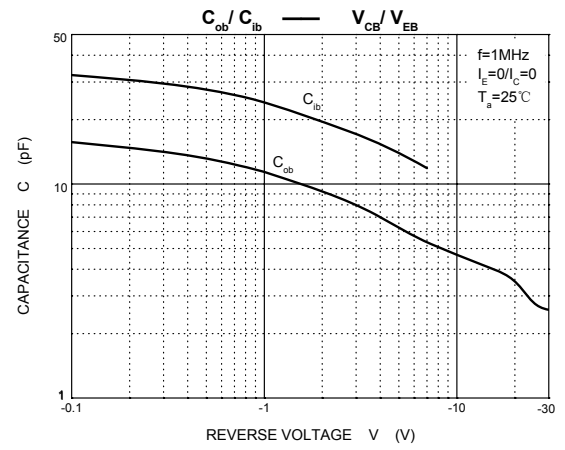
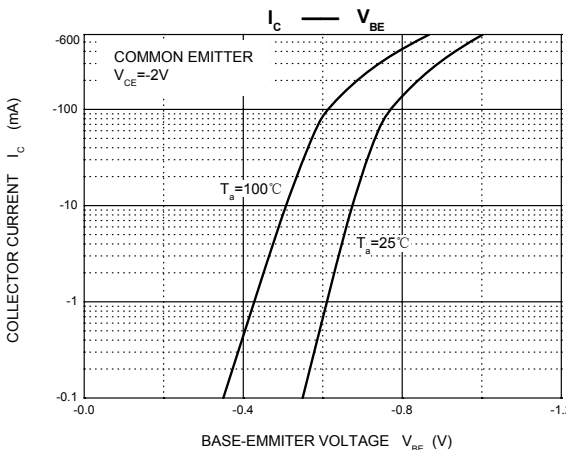
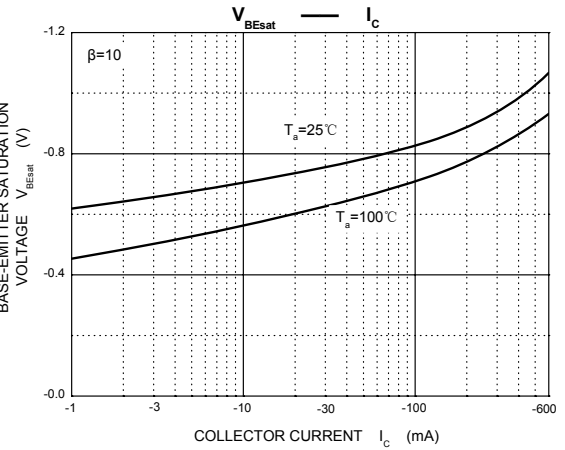
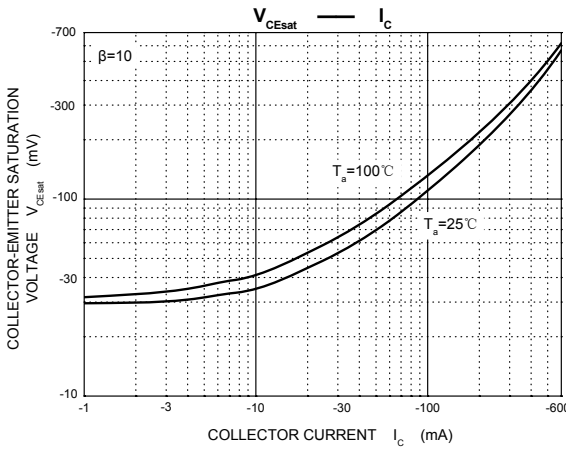
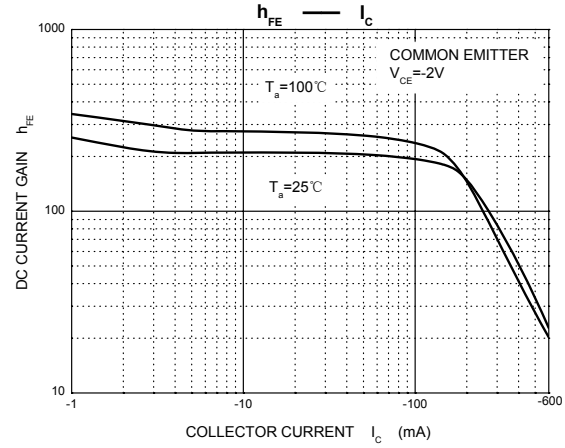
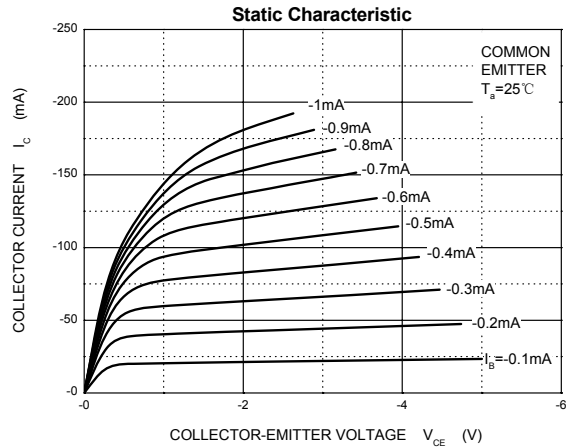
Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-40	V
V _{CEO}	Collector-Emitter Voltage	-40	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current –Continuous	-600	mA
P _{C*}	Collector Power Dissipation	300	mW
R _{θJA}	Thermal Resistance, junction to Ambient	417	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100 μ A, I _E =0	-40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-40			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100 μ A, I _C =0	-5			V
Collector cut-off current	I _{CBO}	V _{CB} =-35V, I _E =0			-0.1	μ A
Collector cut-off current	I _{CEX}	V _{CE} =-35V, V _{BE} =0.4V			-0.1	μ A
Emitter cut-off current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	μ A
DC current gain	h _{FE1}	V _{CE} =-1V, I _C =-0.1mA	H0			
	h _{FE2}	V _{CE} =-1V, I _C =-1mA	∩0			
	h _{FE3}	V _{CE} =-1V, I _C =-10mA	F∅0			
	h _{FE4}	V _{CE} =-2V, I _C =-150mA	100		300	
	h _{FE5}	V _{CE} =-2V, I _C =-500mA	∅0			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-150mA, I _B =-15mA			-0.4	V
		I _C =-500mA, I _B =-50mA			-0.75	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =-150mA, I _B =-15mA			-0.95	V
		I _C =-500mA, I _B =-50mA			-1.3	V
Transition frequency	f _T	V _{CE} =-10V, I _C =-20mA, f =100MHz	200			MHz
Delay time	t _d	V _{CC} =-30V, V _{BE(off)} =-0.5V			15	} s
Rise time	t _r	I _C =-150mA, I _{B1} =-15mA			20	} s
Storage time	t _s	V _{CC} =-30V, I _C =-150mA			225	} s
Fall time	t _f	I _{B1} =I _{B2} =-15mA			∩0	} s



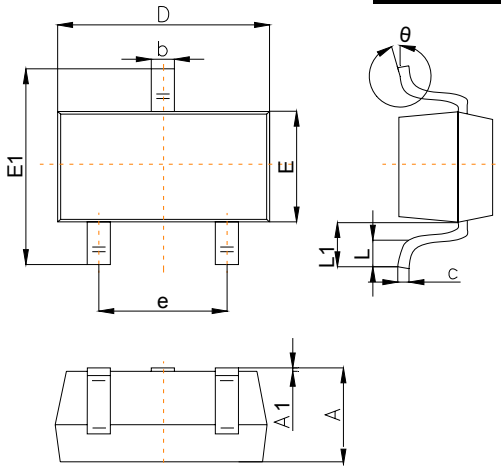
Typical Characteristics



The curve above is for reference only.

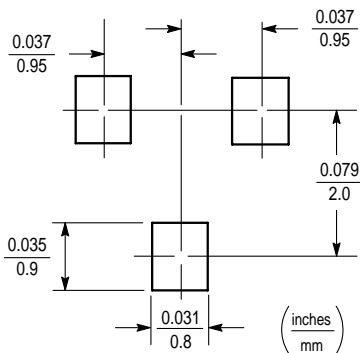
Outline Drawing

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.90		1.40
A1	0.00		0.10
b	0.30		0.50
c	0.08		0.20
D	2.80	2.90	3.10
E	1.20		1.60
E1	2.25		2.80
e	1.80	1.90	2.00
L	0.10		0.50
L1	0.4		0.55
θ	0°		10°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOT-23	7'	330	3000	203×203×195	45000	438×438×220	180000